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WASHINGTON COUNTY

AGRICULTURAL SOCIETY.

REPORT OF FARM VISITING COMMITTEE

FOR THE YEAR 1874.

INV. '60

WASHINGTON, PA :
HASSON & CO., BOOK AND JOB PRINTERS,
1874.

REPORT
OF THE
FARM VISITING COMMITTEE
OF THE
Washington County, Penn'a., Agricultural Society,
FOR THE YEAR 1874.

Number of Farms Visited, 10.

MEMBERS OF COMMITTEE:

COL. A. MANCHESTER, Chairman, FRANKLIN BELL,
WM. C. BROWNLEE, ROBERT WYLIE,
S. K. WEIRICK, S. J. CROTHERS,
JOHN McDOWELL.

To the Hon. John H. Ewing, President of the Washington County, Penn-
sylvania, Agricultural Society:

SIR—Your Committee in resuming its work, after a short recess of only four years, feel the importance of the task, as well as their inability to perform the work and note the progress in Agriculture so as to be profitable to all; hence the necessity of calling to their assistance some of the learned, practical and scientific Agriculturists.

Dr. H. P. Wakefield, President of the Eastern Hampden Agricultural Society, in his address upon "Agriculture from a New England standpoint," says: "I want to urge on every farmer to make the effort to be a better one. I care not how good you may have been, you have not reached perfection. There is room for improvement. You have toiled with your muscles, now put more brains into your work. Physical labor is a power, but combine it with brains and you increase it a thousand fold." Not having tasted the sweets of scientific agricultural knowledge in our boyhood, we do not feel too old to learn. Farm visiting Committees in the acquisition and dissemination of agricultural knowledge, give tone to the agriculturist; they help to elevate the farmer and his occupation, and to create a stimulus among farmers to increase the productiveness of the soil and to make the attractions of rural homes more pleasant and attractive, and in recording the systems and experiences of those visited, it is hoped the results will be largely beneficial to the farming community and to all interested.

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Your Committee were gratified to find an increased and growing interest with the farmers in agriculture in its various features. The soil is becoming more fertile, yielding larger returns. The stock of cattle, sheep and swine, is much improved, and will compare favorably with the best in the United States. We regret to say, however, the horse stock has run down and is not at present suited to the wants of the farmer. Implements of husbandry are lighter, much improved, and better adapted to their respective work.

Our labor (though somewhat expensive to the Committee) has elicited some very valuable information.

Your Committee are under compliments to other gentlemen, some of whom are distinguished professors, practical and scientific agriculturists, who upon invitation so kindly assisted your Committee in their work.

The reports and statement are submitted as received, and must stand upon their own merits.

JOHN McDOWELL, Secretary.

The object in Farm Visiting Committees acting under the instructions of the Society, as stated in our report of 1870, are the acquisition and dissemination of agricultural knowledge, the promotion of acquaintance and friendship among neighbors; the improvements of farms, farm implements, grain and stock raising, buildings and every department of agriculture; to awaken a spirit of inquiry and emulation; to remove prejudices, and make known the varied systems and experiences of individuals engaged in agriculture.

VISIT No. 1.

FARM OF COL. A. MANCHESTER, IN INDEPENDENCE TOWNSHIP, WASHINGTON COUNTY.

Committee met June 17th, 1874, at the residence of Col. Manchester, three miles from Independence village. Members present: S. J. Crothers, S. K. Weirick, T. Bell, Enoch Prigg (in place of W. C. Brownlee) and John McDowell.

Col. Manchester was chosen Chairman and John McDowell, Secretary.

Messrs. C. H. Beall, Thos. Buchanan and Joseph Gist were invited and took part with the Committee.

S. J. Crothers, Chairman of this meeting.

The farm of Col. Manchester became the property of his father in 1797, and originally contained 200 acres. In 1851 Col. M. got possession of it; he had, however, for some time before this period, indirect control of it. He has added to it, now it contains 500 acres, 100 of which is timber land. He was in debt when he first got possession of the original tract, now he represents himself as entirely out of debt and is anti-tea, anti-coffee, anti-liquor and anti-tobacco in his habits.

Col. M. states during the war help could not be had to repair and make fences. His principal object was to improve the quality of the soil by manuring largely, applying as a top dressing and by deep plowing. Col. M. spreads manure on sod in the fall, which he plows the next spring, the manure having assimilated with the soil, the benefit of which is seen in the corn crop. He estimates the improvement made on the soil by his method of tillage at fifty per cent. in twenty-five years; corn crop, succeeded by oats and that by wheat and sown to timothy. Col. M. estimates the gain in wheat, by top dressing with manure, at twenty-five per cent. Some of his crops of wheat had made thirty bushels per acre, which had been sown broadcast about the fifteenth of September. The varieties he grows are the Maltese (white grain) and the Kentucky stiff straw (red grain). After plowing and sowing he uses the common harrow and cross harrow equal to four strokes. The timothy is then sown and covered by using a brush har-

row, constructed as follows: Seven foot beam, six by four, with holes eight inches apart, in which is stuck beech brush. He sows clover about the fifteenth of April and never failed to get a good stand of meadow by putting on two-thirds timothy and one-third clover; puts on one and a half bushels of timothy to ten acres.

Question by Mr. Prigg—Do you level the furrows thrown against the hill before sowing? Ans.—I do not, but it is very important to plow well, and the ground should be dry when the grain is sown. In what condition should the ground be in for working corn? Dry; and keeping the ground mellow we get more moisture to the corn; as to the product, Col. M. states he had raised *one hundred and twenty-two and one-half bushels per acre of shelled corn* and obtained a premium for the same, and never had missed a good crop of corn.

Quest.—Give a full history of your system of raising corn? Ans.—If it can be done plow in February, if not, plow in March eight to ten inches deep, in order to get the action of the frost, which is the best pulverizer (subsoiled for premium crop), harrow what it needs to put the ground in good order, marks out three and a half feet each way and plant about the last of April or first of May; cultivates three or four stocks in a hill, works with small harrow twice each way, then uses the cultivator as many times each way; working thus, keeps the field clean, hilling or hoeing is not of advantage, only so far as it keeps the weeds and grass down about the hill, work shallow and "lay by" when the corn is knee high.

Answers to questions from several persons—plow deep if the season is and would seem to be dry. Corn will hold better, though it is slower in starting, than in shallow plowed ground. Shallow plowing will not always do to tie to; it will do in wet seasons, but it is not safe to practice. is of the opinion that deep plowing is more needed than in former years. The soil of his farm is limestone, and he claims by plowing deeper each year he brings up a sub-soil equal to virgin soil. He breaks sod every ten years or thereabouts; cuts up his corn which he says makes fine fodder for cattle in particular.

Hay—Cut when blossoms fall from timothy. When partially cured, it is put in shock, is hauled by ropes to stack or barn; uses two quarts of salt to the ton to entice crop, which he claims improves the quality of the hay, and stock relishes it better; too much salt is very injurious. Never put anything in center of stack to ventilate, but oats, not very fit for mowing, use a barrel in center of mow and raise the barrel as the mow fills up. Feeds all his hay on the farm.

Stock—Col. M's. occupation is that of mixed husbandry. He keeps eight hundred or more Saxon-merino sheep, and generally raises three hundred lambs; sells off the old stock as fat sheep. The average weight of fleece of the entire flock is from four to four and a half pounds of wool—brook washed.

Feeding—Gives as much hay as the sheep will eat up clean; feeds corn and oats mixed, one-half bushel to the hundred, once a day to all his sheep; the grain is fed in the morning while the rack is being filled with hay; shelters all his sheep, as they require less feed and give more wool.

Cattle—Has ten very fine milch cows in fine condition. These cows are all milked by Mrs. M. and her daughters, without hired help. He has other cattle besides.

Irrigation—Has practiced some, getting in return the largest crops of grass he had ever raised.

Underdraining—Has about three hundred yards and finds it pays well where there is excess of moisture. He digs a ditch two and a half feet deep, slants stone from each side to stone set perpendicular in the center; this forms two drains; then breaks stone on the top one foot deep, which are covered with swamp grass; the ditch is then filled with clay. Col. M.

states deep plowing will not take the place of underdraining, that capillary attraction is the principle that brings and carries off the water in close drains; on this principle open drains fail.

Fencing—Worm fence is the cheapest, but all things considered there is not much difference.

Mrs. M. showed the Committee through the house, a handsome brick building, erected fifty-nine years ago; is not surpassed for comfort and convenience by the architect of the present day; one particular about it called forth the admiration of the Committee as something new, although in use so long.

A SMOKE HOUSE IN THE GARRET.

In this large room, the brick chimney built in one end is of more than ordinary size, with a door in the side, which, upon opening, the Committee were shown the inside. Here were fine, well cured hams of meat, solid, cool and nice; free from the least sign of insects. A thief has never dared to enter. There is a flue with a damper that shuts off or admits the smoke from the fire place four stories below; when closed it is quite dark.

The Committee were from this room taken to the look-out on the top of the house, from which they had a most beautiful landscape view of the surrounding country. As they looked down on the large and thrifty garden, with its growing products in rich abundance, with its goose, currant and strawberries, and flowers in rich profusion, all kept clean and neat. On learning that this was the work of the females, who, in addition, without hired help, also attend and keep in like condition another and larger patch, including more and other small fruit, they could not but say that industry had made the home of this family pleasant and attractive. Contrast this work with the accomplishments of the young ladies. We find them in the parlor discoursing the sweetest music; in fact the one who sat at the piano is one of the very finest performers.

Cistern—Convenient for house use, built under ground in the usual way and cemented, in which is a filter of elliptical form to withstand pressure, formed only of one brick thickness laid in cement, the water gradually seeps through the brick, neither side of which is plastered. Col. M. represents it as giving entire satisfaction. The water is very clear and nice.

In looking at the buildings, stone fences, and implements of husbandry, we have almost a miniature (but this is too small a word) exposition of industries of the past and present in the histories of these two families, the father and son. Here we found authentic specimens of antiquity; plows of wooden mould board, hoes, forks, shovels, mattocks, axes, rakes, scythes, cradles, flails and windmills, and other agricultural implements, together with the various transformations they have undergone in attaining the most improved forms of the present day. Time would fail us to give a minute description of what we saw, but we cannot pass without noticing some of the buildings and fences, his wagon shed, carriage house and corn crib, a crib into which no rat can enter, the oak lath are only four by four inches. The building is neat and convenient. In the wash-house is a large fire place. A very strong spring of pure crystal water passes through this building, filling stone troughs for fifty years. A door in this room opens into a large vault or milk room, supplied with cool fresh water. Also, on one side of the wash-room, near the spring troughs, is a cheese press of 3,000 pounds pressure, simple and convenient in construction, though its leverage reaches far out and returns like the long spring legs of huge grass-hoppers; can be operated by a female (the specimen of the cheese they manufacture is equal in taste and beauty of color to any of the Western Reserve cheese that is sold in our markets). With a dog power outside, the churning of milk is performed in the wash-room; the whey and milk is conveyed in pipes to a large hogshead and from this it is discharged at

pleasure through a pipe leading to the hog pen. The fine, sleek porkers showed the effect of the wholesome beverage and a little corn. The stone fence that encloses the barn-yard is equal to any of the bridges on the National road. The cider press in the lower story of a building runs off *forty* barrels from a single cheese; a wagon load of apples is driven in the story above, the apples pass through the mill below. The cider was once conveyed in pipes from the press to the still house that has long since been used for other and better purposes. The bee house, of large size, resting on a foundation of stone of one hundred perch or more, presents a fine appearance with its numerous hives.

The carpenter, cooper and saddler shops are well filled with all kinds of their respective tools, many of them of the most antique forms. These are preserved bright and in good order for use. Here were also found paints and paint brushes, and many other articles—we could not tell what they were, nor what use was made of them. In short, what we saw of the father and son reveals to us this fact—they took care of what they made; nothing was allowed to waste; even the old oak monarch that stands in the yard upon which time is telling its effects, with its hollow butt, is used for a hen's nest. The wood-house, barn and other buildings we must pass by without noticing, for want of time.

The farm is in very high order, free from stone as deep as plowed. Col. M. had, himself, built in a large bridge and fence some five hundred perch of stone gathered off the fields. Some of his fences are not good, but others are very fine.

His corn and wheat looked well with a prospect for a large yield.

A fine apple orchard was badly smitten with blight (like pear blight). Committee were of the opinion it was caused by the sting of some insect, but none could give a preventative.

S. K. Weirick remarked: If there was a spot I would like to visit that I might compare with the past it is here; this exceeds my expectations till I am perfectly astonished. I have traveled all over the county, but here I find combined a greater display of implements than I have ever seen; here we have seen a remarkable history of the industry of the father and now preserved by the son. I feel utterly overcome, but time forbids that I should say more. Farm visiting is up-hill business, except where we are received and so kindly entertained as we have been here.

F. Bell.—Talk about improvements of our present day, when here we find an old cider press that will run off forty barrels of cider at a time, and the architect of the house built fifty-nine years ago as good as that of the present day.

The Committee found the farm of Col. M. very free from weeds. The fence corners were particularly noticed. On being questioned in regard to these pests he answered: he mows the fence corners every harvest, not only of the meadows but also of the grain fields. Thistles and mullens are grubbed twice a year, by going over all the farm with small mattocks kept for this purpose. No noxious weeds are allowed to go to seed. Col. M. states if the farmers throughout the county would practice this plan carefully and faithfully these pests would soon be eradicated. He pays no regard to the moon in his system of farming, nor to the signs in castrating lambs and other stock.

The Committee are under a compliment to Mrs. M. and daughters for a most excellent dinner, for which the thanks of the Committee were tendered through the Chair.

Adjourned to meet this afternoon at Robert Buchanan's.

S. J. CROTHERS, President, pro tem.

JOHN McDOWELL, Secretary.

VISIT No. 2.

FARM OF ROBERT BUCHANAN.

Committee met in the afternoon according to adjournment June 17th, 1874, at the residence of Mr. Buchanan, near the Wellsburg road, two miles west from West Middletown, Washington county, Pa.

Members present the same as at Col. Manchester's. The original tract of Mr. B's land was in the possession of his father some twenty-seven or twenty-eight years ago. At present it contains 300 acres. He put up all the buildings on this farm except the barn and made all the present improvements. The soil is limestone. He estimates the improvement in soil since the farm came into his possession at fifty per cent. This he obtained by proper cultivation; by manuring, by keeping stock and feeding all that is raised on the farm. He applies manure on the sod or plowed ground in the spring and fall as a top dressing. Mr. B. has applied lime on black limestone ground with profit. Has never had any trouble to get grass seed to catch. The fields are not injured at any time with excessive moisture, and require but little underdraining.

The Wellsburg road passes through this farm. The fine fences and fields of well set grass, on which may be seen sheep and cattle in high condition leisurely grazing the tender herbage, the rich luxuriant growth of all the crops under cultivation, teaches the eye of an observing man that "the hand of the diligent maketh rich." "The little hills rejoice on every side, the pastures are clothed with flocks; the valleys also are covered over with corn; they shout for joy, they also sing."

While sections north and south of this were suffering for want of rain, it was not so here. The garden attended by Mrs. B. presented not only taste, but products of unusually large size for this time in the season.

Mr. B. is not a man who exaggerates but gives results on the safe side. The Committee elicited the following:

He plows sod shallow for corn which had laid out about ten years; prepares the ground thoroughly, makes the hills about three and a half feet each way, plants early the gourd seed (small cob) variety; works with a double shovel, is careful not to work too much in dry weather, if the corn is clean, and he does not believe in plowing corn when it reaches up on the horses sides. Works about three times and cultivates three or four stalks to the hill. Had raised one hundred bushels shelled corn per acre. He had sometimes raised white corn but likes the yellow best. Estimates the yellow two and a half per cent better than the white. The Committee looked at a field he had in corn which presented the best appearance of any they had seen this season. This field had been under cultivation, Mr. B. tates, one hundred years and never had received much manure, but plowed deeper of late years.

Oats—Plows deeper than for corn; sows broadcast and harrows in well. Mr. B. thinks oats are not as heavy as in former years; thinks hot seasons the cause of failure. He once sowed three bushels per acre and had a poor turn out.

Wheat—Does not raise much. About the first of September he sows broadcast one and a half bushels of machine-threshed wheat and harrows in. Had raised from eight acres two hundred and fifty bushels. The largest yield he reported at three bushels per acre.

Timothy—Is sowed after the wheat is harrowed, and he regulates the quantity by its fall.

Mr. B. thinks stock raising pays better than grain. Of stock, hogs pay the least. He had experimented with the Berkshire breed. These grow rapidly, are very prolific, but mischievous.

He regards sheep and cattle the most profitable stock. He keeps about

seven hundred sheep, which are very fine of the kind for wool and mutton. The Committee examined the wool in the wool house, after walking over a large part of the farm. One of the Committee who never had been on a farm visit before, and although fixed up on his own farm at home like a lord, was so impressed with what he saw, let off a big sigh, "Oh, dear what will become of poor Enoch." The reader may take this big sigh for a large part of the report, as we cannot give a better idea of the impression made upon the Committee.

But all was not yet seen. Mr. B. next took us to see his thorough-bred Durham cattle. The actual weight of two of his cows were 1,575 and 1,475 lbs. respectively. These were indeed a credit to him. His calves, of different ages also, reflected like credit to him as a stock raiser.

The Committee found Mr. B's orchard, like all others in his vicinity, much affected with blight. C. H. Beall thinks it is caused by the ground becoming too rich from feeding stock on it.

After enjoying a most excellent supper, for which the thanks of the Committee were tendered, adjourned to meet at the call of the President.

A. MANCHESTER, President.

JOHN McDOWELL, Secretary.

- VISIT No. 3.

FARM OF J. G. HANNA.

Committee met August 20th, 1874, A. M., at the residence of Mr. Hanna, one-eighth mile from Independence, Washington county, Pa. Members present: Col. Manchester, S. K. Weirick, F. Bell, W. C. Brownlee, S. J. Crothers and John McDowell.

Rev. G. P. Hays, President of Washington and Jefferson College, Louis Applegate, Jerome Plummer, Thos. Buchanan, Joseph Gist, R. Crothers, and Mr. Braden, were, upon motion, invited and added to the Committee.

The day was delightful. Mr. H's mansion, situated on an elevation, has a commanding view of the village and of the surrounding country. This part of Washington county is not so broken as other parts. The soil is generally black limestone. The Committee were first taken up-stairs to the look-out and had a fine view of the farm. It had a fine appearance, all in pasture fields, well arranged, fences, straight, well built, all in good order, free from briars, brush and rubbish. Nature has favored the hand of industry in beautifying the home of Mr. H. Taking time by the fore-lock, he has embraced his advantage and opportunity to make useful, convenient and attractive his suburban residence.

The farm naturally rich and productive, is still becoming the more so under Mr. H's system of farming.

The farm consists of two hundred and eighty acres, which was formerly in three tracts. He had control of a part of it before it came into his possession by heirship. It contains thirty acres of good timber, principally white oak. Much of the fencing on this farm is of board, with morticed posts. This he prefers and estimates the cost double that of worm fence. He states board fence with locust posts will need repair in fifteen years, and worm fence in seven years. There is water in every field. The rolling surface of the farm, with fine fences running north and south, presents the appearance of sectional lines, as we find in the Western States.

Mr. H. breaks about sixteen acres of sod that had lain out sixteen years for corn, which is succeeded by oats and wheat. He plows for corn about six inches deep and prepares the ground well before planting, and prefers planting in drills about the first of May. If planted in hills he distances each way three and a half feet, allowing three stocks to each hill; works four times with double shovel; the product fifty bushels shelled corn per acre. Cuts up when the blades begin to turn.

Oats—Sows by first of April or sooner if it can be done. Puts on two bushels per acre and raises forty bushels per acre. Found some advantage in drilling.

Wheat—Plows deep, top-dresses with manure, then harrows and drills one and three-fourth bushels machine threshed seed per acre, grows the Kentucky stiff straw, which is the same as the Morton white chaff red grain, cuts in a dough state, sets the sheaves in shock two and two (round shock) and breaks the cap sheaf "over tuck," and places it with heads towards the sun. In three or four days, or as soon as dry, hauls to stack for want of room in barn; threshes soon; yield fifteen bushels per acre and has had sixty-six pounds per bushel. Stacks the straw for cattle to eat and work into manure.

Mr. H. states that straw left in the spring is useless, unless it can be worked into manure.

Manure—Always top-dresses except for corn, and thinks one load thus applied equal to two plowed down. He hauls manure in mid-winter and is plowed down for corn. Sometimes he top-dresses meadow land, uses all the manure he can collect from the henery, pig sty and stables, and applies as a top-dressing in the fall for wheat.

Timothy—Drills one peck per acre with the wheat about the first of September and sows in the spring one bushel clover seed to six or seven acres, both of which he states failed this year. He also states if timothy seed is hulled it will grow. Clover, however, if sowed in the chaff will catch better, and if there is snow on the ground about the first of April it is the best time to sow.

Hay—Raises from fifty acres more than he feeds and sells some. He always takes three crops of hay after wheat, and then grasses. Has one hundred acres in pasture.

Excess of moisture is all carried off in underdrains.

Sheep—Has four hundred; are raised, tended and disposed of the same as Col. Manchester's.

Cattle—Keeps a grade stock and has a weekly account of the butter produced (not reported).

Only keeps three work horses.

In conclusion of Mr. H's report, we would say there were a great many questions asked but not recorded in this report, all of which he answered promptly without any mistake in figures, in product of grain, cost of fencing, in acres of cultivation and grazing.

The thanks of the Committee were tendered to Mrs. H. for an excellent dinner.

Committee adjourned to meet this afternoon at Mr. Applegate's.

A. MANCHESTER, President.

JOHN McDOWELL, Secretary.

VISIT No. 4.

FARM OF LEWIS APPLGATE, IN BROOKE COUNTY, W. VA.

Committee met in the afternoon according to adjournment, August 20th, 1874, at the residence of Lewis Applegate, on the Wellsburg pike, three miles west of Independence. Members present the same as at Mr. Hanna's.

Mr. A's farm contains three hundred and fifty acres, and he states it is eighty years since the first field was cleared and that the soil was always good, had a growth of sugar, hickory, walnut and oak timber, and at the present the soil is fifty per cent. better than it was thirty years ago, at which time the settlers left this region of country, representing the land too poor on which to make a living. Now those same persons on revisiting this region are surprised to find such improvements in the soil; find it

equal to virgin soil. The soil is of two different kinds, limestone on top and black sandy gravel underneath. He claims the improvement in soil was obtained by keeping stock, and by keeping the fields well seeded down. Mr. A. is engaged in mixed farming, and states a man on a farm ought to raise what he consumes and never be the purchaser. He sells no straw nor hay. There is manure in straw. He had filled up ruts in fields washed three feet deep with brush and covered over with straw, and in three years it was tillable. He has about seventy acres of timber. Mr. A. breaks from twenty to twenty-three acres and not less than eighteen of sod every year for corn, and cuts sixty to eighty acres of meadow each year. He prefers renting pasture so that he can cut more hay, and had sometimes carried over from sixteen to eighteen stacks.

Plows in the spring as deep as it can be done, say six, eight, or ten inches. He had never missed a crop of corn. He states deep plowing holds moisture better and roots run deeper, and is a better guaranty against drought.

Harrows effectually if it takes a week, and if necessary uses a maul to break clods. He once plowed part of a field in February to destroy the worms, but in this part of the field the worms took the crop of corn, the other part of the field gave a good crop.

Marks out three and a half feet each way shallow, as the corn is less liable to smother, and works as soon as the corn is up; hoes flat hills, which he states helps the growth of corn; he uses what he calls a "side-wipe" plow. This was a new implement to the Committee, and they had to call for it. It is simply a three shovel plow or cultivator, the shovels of which are bolted through an oblique cross piece at the end of the beam next to the handles. This puts the left or first shovel at the end, in advance of the second or middle shovel, and the second or middle one in advance of the third shovel. Mr. A. speaks highly of it. He works twice with the "side-wipe" and then twice with the double shovel, the last time deeper. Plows the corn often in dry weather to make it grow. He cuts up all his corn, which he claims improves it. Yield, from sixty to seventy bushels shelled corn per acre.

Oats—Plows not so deep as for corn, but leaves the grass sod to be turned up for wheat, because the oats grow too rank. Sows broadcast two bushels of the white common kind—yield, thirty-five to forty bushels per acre.

Wheat—Plows deep to turn up the sod. Sows broadcast about the first of September from one and a half to one and three-fourth bushels per acre of the white early variety, and raises from twelve to fifteen bushels per acre. He states he had raised better wheat on fallow ground than after oats.

Timothy—Sows one bushel to four acres. Sows one bushel of clover to six acres after the frosts are gone.

Meadows—Cuts timothy as soon as in perfect bloom; cures partly in swaths, then in shock; puts one-half gallon of salt to the ton.

Potatoes—Plants early the Early Rose variety, and uses two spoonfuls of Paris green and one bucket of lime mixed, applied as often as the beetles appear.

Fruit—Sells no apples; raises all kinds for family use. Plums and apples of late years were not sure crops; the curculio works on the plums. He would have had a large crop of plums this season had they not been destroyed by hail.

Fencing—Mr. A. states he had a post and rail fence that stood forty-two years, and a board fence thirty years without repair. He showed the Committee a fence built in 1851, now good. All things considered, he has found the board fence the best, and states it will be stronger and last lon-

ger if capped, and that he can keep a farm in better order and at less expense than by using worm fence.

Underdrains—Although this is an upland farm he has nearly four hundred rods and finds it pays well.

Sheep—Keeps from six hundred to seven hundred Saxons crossed with the old black top; average weight of fleece (brook-washed) four pounds. Feeds hay to all his sheep in winter, and part are fed grain. Begins to feed grain to breeding ewes in February. Corn is the only kind of grain fed. Lambs are dropped the twentieth of April. Never had paper skin. Has no foot-rot.

Cattle—Keeps the best he can get. His oxen are very fine.

Buildings—Mr. A's mansion is beautifully situated on high and level ground, near to and west of the Wellsburg pike, from which he has a picturesque scenery of the distant landscapes. The house is a large two-story brick, admirably arranged for comfort and convenience. Mr. A. was free to show the Committee the house arrangements and out-buildings, wash-room, spring house, ice house, coal house filled with fine coal, wood house too, filled with stove wood, and many other buildings, even the kennel has its place on sentinel ground. The barn, once without an under story, now rests on a stone foundation that would do credit to a city dwelling. These stones were obtained on the farm, are six, eight and ten feet long, extending in breadth through the wall, are equal, if not superior to any free-stone used in the city of Pittsburgh. The barn is well filled with hay and grain. All the buildings are convenient and near to the house, on ground with just slope enough to carry off the rain. Mr. A. has also very fine flag stone. He has walks of these leading to the house and out-buildings, put down by himself, with a neatness not surpassed by any mechanic, some of these walks stretching through the pines and other evergreens, and ornamental trees, with their hanging baskets. Underneath, you may recline in the shade upon the green grass, nature's carpet, or if you prefer, a seat upon the settle or rustic chair. Near at hand, as you pass the croquet ground you enter the garden, which was admired by all, here were seen products of mammoth growth of every variety, also beds of pinks, dahlias, phloxes and other flowers in rich profusion. At another spot bunches of millet and Egyptian wheat, &c.; next a smoke tree. Here the eye may feast, the lips may taste the strawberry, raspberry, blackberry, currant, gooseberry, grapes too of all colors, pears, plums, and quinces. The busy bee (Italian) the emblem of industry, from fifteen hives so near the garden, enriched with aromatic herbs, the most fragrant flowers and delicious fruits, invites these little useful insects to a greater industry. This season, so unfavorable for honey, yet these colonies were all found working with unusual activity, giving a constant supply of honey and much more than the family can use.

Before closing this report, the Committee after walking over a considerable portion of the farm making observations, would say they were well pleased with the appearance of the farm. They also witnessed the working of a "plow sulkey" attached to a common plow, exhibited by Messrs. Dye and Cox and are free to say it did its work well. President G. P. Hays made fine work with it with ease. It is no humbug. It can be attached to any plow.

The Committee were cordially received and were as free to interrogate Mr. A. and receive his answers as they were to feast upon the substantial and delicacies of his overloaded table, and for which the thanks of the Committee were tendered through the Chair to Mrs. A. and her daughters.

A. MANCHESTER, President.

JOHN McDOWELL, Secretary.

VISIT No. 5.

FARM OF THOMAS BUCHANAN, BROOKE COUNTY, WEST VA.

August 21st, 1874, 9 A. M., Committee met pursuant to adjournment at the house of Thomas Buchanan, one mile south-west of Independence, Pa.

Members present—Same as at Mr. Applegate's, with the exception of Rev. George P. Hays, D.D., and John McDowell, absent. Mr. Applegate appearing, was, on motion, added to the Committee.

The Committee took a birds-eye view of the farm and its surroundings, which contains four hundred acres, part lying in each State (on it is located the well known Independence camp ground of the Methodist Episcopal Church). The soil is composed of limestone; fields quite large and well fenced. The farm has a thrifty appearance, is clear of briars, alders, and weeds. The purest of cold water flows in every field.

The mansion, a large two-story brick dwelling, situate near the center of the farm, with the improvements just added to it by Mr. B. The lawn well filled with all varieties of evergreen and ornamental trees, make it almost an "Eden" there to dwell.

The out-buildings are good, in excellent repair, and are white as the knight of the brush can make them.

Mr. B. on being interrogated as to his farm productions, his mode of producing, how much and why, are given below:

The soil in my opinion is twenty-eight per cent. better than it was twenty years ago, which is attributed to the present mode of farming.

Corn—Plows sod in the spring as early as frost is out of the ground, never more than four inches deep. Top dresses with manure at all times—consider one load on top as good as two plowed under. Prepares the ground well by harrowing, runs out shallow three and a half feet wide, plants one way twenty to 24 inches apart, two to three stalks in a hill. Plants from 20th of April to 1st of May. Works shallow at first and deeper each time; cultivates in dry weather and thinks it a benefit works four times; raises both yellow and white—the former the strongest, the latter the most productive. Always cut off when fully ripe. A slight frost does not injure the crop. Average, per acre, 75 bushels.

Oats—Plow from five to six inches deep. Sows or drills as early as practicable one and a half bushels per acre; drilled has done the best. Forty bushels to the acre an average. Do not think oats harder on the soil than other crops, however, in point of profit, do not compare with other crops.

Wheat—Plows from six to eight inches deep for wheat; top-dresses with sheep manure. Drills or sows broadcast from 1st to 10th of September one and three-fourth bushels when drilled and two bushels per acre when sown broadcast. Think the drilled does the best; raise both white and red varieties, Kentucky white and Lancaster bearded; prefers the red for flour; cuts before fully ripe; average per acre fifteen to eighteen bushels.

Timothy—Sows in the fall, immediately after wheat, one peck per acre. Would rather have a crop of grass than wheat, if I had my choice to have only one.

Clover—Sows last of February to 10th of March, one bushel to seven acres.

Hay—Grows a mixture of timothy and clover, which I consider the best for all kinds of stock. Begin to cut early on account of having so much, but think the proper time to cut timothy, when the blossom is off; clover, when one-half of the blossom turns brown. Does not salt hay; mows and stacks about equal quantities; consider it a loss of twenty per cent. to stack.

Sheep—Mr. B's flock number from eight to nine hundred; Spanish blood predominates; divides into lots of one hundred each; in summer salts reg-

ularly every four or five days as much as they will eat; in winter, not so often, nor as much. I am satisfied that sheep will not thrive without salt. Feed stock sheep one-half bushel grain (corn and oats mixed) per day to each lot. Raise two hundred lambs annually, dropped 1st of March; wean latter part of July; house all my sheep and think it pays well to do so. Spanish I consider the most profitable; average weight of fleece five and a half pounds. Never had but one case of so-called paper skin; it occurred in the spring of the year. On observing something wrong I immediately turned out of the sheds; suppose this was a cure.

The attention of the Committee at this time was called to examine a "Plow Sulky," exhibited by Messrs. Dye and Cox, then at work in Mr. B's field, adjacent to the house, which, on examination and observation appeared to do its work well, and was thought by the Committee to be a labor saving implement for the farmer and recommended as such.

Garden—We find the garden the pride of the farm, well filled with all varieties of small fruit and vegetables, clean and in order. Whether to give Mr. B. or his daughters credit for this we fain could tell, but were inclined to believe that fairy hands had something to do with the cultivation of the flowers at least.

Implements—Has the latest improvements in all kind of farm machinery, and all under shelter when not in use.

Fences—Have a preference for board fence, but am satisfied they cost (all things considered) three times as much as worm fences.

The Committee regret they were compelled for want of time to cut short their investigations, but from his statement and what they saw, will class Mr. B. as a No. 1 farmer.

The Committee were invited to a dinner provided for them. A table that fairly groaned with the good things that a farm produces, the viands disappearing like dew before the morning sun, went far to show that they were highly relished. After dinner the Committee had the pleasure of hearing a few pieces of music, both vocal and instrumental by one of Mr. B's daughters. Suffice it to say that it was excellent, and one piece in particular, will long be remembered.

The thanks of the Committee were tendered through the Chair to Mr. B. and his daughters for their kind entertainment.

Adjourned to meet this afternoon at Mr. Joseph Gist's.

ASA MANCHESTER, Chairman.

J. G. HANNA, Secretary *pro tem*.

VISIT No. 6.

FARM OF JOSEPH GIST, BROOKE COUNTY, WEST VA.

August 21st, at one o'clock P. M., Committee met pursuant to adjournment, at the house of Mr. Gist, Brooke county, West Va., one mile and a half south-west of Independence, Pa. Members present—Same as at Mr. Buchanan's. The Committee were honored with the presence of the following named gentlemen, who by a vote of the Committee, joined and kindly assisted in the duties of the day: Dr. Samuel Colver, Thomas Buchanan, T. H. Buchanan and C. H. Beale.

The Committee had quite an extensive view of Mr. Gist's farm, which contains one thousand acres, all in one body. The land is somewhat hilly; not broken, however, that it cannot be farmed.

From a high point on Mr. G's farm, a view can be had of the surrounding country for fifteen to twenty miles distant in any direction—a view that would well repay the traveling tourist or the artist with his pencil to visit. From here can be seen "Ohio's green hills"—West Va. at your feet, with all her undulations, and the old "Keystone State," of which the members of this Committee proudly call their home.

The farm, a rich deep black soil, wholly limestone, is in a fine state of cultivation—nature itself, seems to have pointed out the size and shape of the fields, and Mr. G. has taken the advantage and built substantial post and rail fences (with gates and bars for access) which protect his crops. Not a briar, alder, bush, or unsightly weed, can be seen in the fields—not even in the fence-corners—where some, who pretend to be good farmers, let grow for the benefit of their fruit. These have a separate lot of their own.

Pure and crystal water flowing in nearly every enclosure, and the spring at the dwelling gushing out of the limestone rock at the rate of twenty-five gallons per minute.

The mansion, a two-story frame building, situate on the hill-side—some-what ancient in point of architecture—with its dormer windows, long porches, winding steps, &c., is, however, in excellent order. The out-buildings (of which there are quite a number) are neat and trim, with a "place for everything and everything in its proper place."

The following description Mr. Gist gave of his farm, mode of farming, stock raising, grazing, &c.:

I have two hundred acres in timber (principally white oak, walnut, sugar and poplar); cultivate one hundred acres annually; meadow one hundred and fifty acres; the remainder for pasture.

Corn—Plow sod in February, if possible, with No. 5 Hall & Spear steel plows, five inches deep, setting furrow on edge as much as possible; harrow thoroughly; run out shallow rows three and a half feet apart; drills altogether; hills two feet apart; plants from 18th of April to 1st of May; thins to three in a hill; cultivates four times, always shallow; cuts before frost; would cut green rather than have it frosted. Average, per acre, one hundred and fifty bushel of ears.

Answers to questions direct—Do not think any benefit, from early plowing, in way of killing cut-worm.

Experience has taught me, that I could raise more corn from drilling than by checkering.

Oats—Plow from four to five inches deep for oats. Sow as early as practicable, two bushels to the acre; variety, *Surprise*, weighing forty pounds to the bushel. Cut before fully ripe and feed a majority in the sheaf. Average, per acre, fifty bushels.

Wheat—Plow the same depth as for oats; manure by plowing under; sow first week in September, broadcast, one and a half to one and three-fourth bushels to the acre; varieties grown—*Kentucky white* and *Morton*; cut before fully ripe, when in a doughy state. Average, per acre, twenty bushels.

Quest—How do you shock.

Ans—By setting up four sheaves, two and two—one at each end, then two at each side and two on top for cover—always placing tuck of band inside.

Timothy—Sow broadcast after sowing wheat, one bushel to five acres.

Clover—Sow last of February, one bushel to six acres. Have not missed but one crop in thirty years.

Meadow—Mow always the first year after wheat, think it forms a better sod; on an average mow for four successive years. Have cut second crop, but think there is nothing gained by so doing. Cut timothy and clover when in full bloom, as they do not always bloom at the same time; prefer being guided by the timothy.

Sheep—I have 1,500 *Spanish*; think they are the most profitable divided into lots of one hundred each; shelter three-fourths of them, and am satisfied it would be better to house all. Grain all in the winter season half a bushel corn per day to each lot, or its equivalent in sheaf oats. Raise four hundred lambs annually, dropped from 10th of March to 15th of April;

wean latter part of July; average weight of fleece $5\frac{1}{4}$ lbs.

Quest—Why do you have lambs to come so early?

Ans—They are out of the way of spring work, and stand the coming winter much better than late lambs.

Fruit—Cultivat enough for home use.

Fence—I have a preference for post and rail—think it the best. In point of cost, all things considered (a post and rail and board fence being about equal) will cost three times as much as a worm fence.

Timber—Cut timber in the winter season.

Hogs—Mortality in hogs is somewhat greater than in former years.

Potatoes—Raise enough for family use. Varieties grown—Early Rose and Peach-blow.

Draining—In draining, proportion the size by circumstances, and from two to two and a half feet deep by fourteen to eighteen inches in width. In filling, cover the bottom of drain, by setting stone V shaped on edge, and filling in sides with small stone; on this place shavings, as mice are not so apt to work in it as hay or straw, and rounds up well with soil.

Manure—Draw out manure twice in winter season, for benefit of corn crop, plowing under.

Motive-power—Consider horse-power the cheapest and most economical.

Cattle—Durham crossed with our common stock I think the best.

Calves—Wean when three days old; feed for a short time on sweet milk, then on sour, mixed with bran, the entire season.

Irrigation—No experience whatever.

Moon—Pay no attention to the phases of the moon.

While the Committee had Mr. G. on the stand of examination, his estimable lady and daughter employed themselves in preparing an excellent supper, to which the Committee accepted an invitation and did ample justice. After tea Committee again resumed its labors, when, on motion that J. G. Hanna be added to this Committee as a regular member—approved. On motion, that J. G. Hanna be made Assistant Secretary—adopted.

A vote of thanks was tendered to Mr. and Mrs. G. and daughter, for their kind entertainment and generous hospitality.

Adjourned to meet at W. L. Archer's, August 27th, at 9 o'clock A. M.

ASA MANCHESTER, Chairman.

J. G. HANNA, Secretary.

VISIT No. 7.

FARM OF W. LEE ARCHER.

Committee met August 27th, 1874, at the residence of Mr. Archer, of Jefferson township, Washington county, Pa.

Members present—Col. Manchester, F. Bell, Wm. C. Brownlee, John McDowell and J. G. Hanna.

Messrs. James, Glass, James Archer, Esqs., Thomas Vance, Geo. P. Miller, and R. P. Buchanan, were, upon motion, added to the Committee.

The Committee walked over the farm and took a look at the arrangement of fields and the buildings, the quality of the soil and the implements used in cultivating; at the orchard, garden, and other small fruits—but especially at his stock. The Committee were well satisfied that economy and skill have been closely observed in every branch of husbandry, especially with a very large and liberal outlay on the part of Mr. A. to obtain the purest blood of Infantido or American Merino sheep in the United States.

The occupation of Mr. A. is that of mixed husbandry. His farm contains two hundred acres, which he has had for twenty-two years. He estimates the improvement in the quality of the soil in that time 100 per cent.

Mr. A. regards grass as the best crop, and should never be pastured

closely, which would be injurious to the soil; he also states that three years of luxurious growth of grass, including a course of clover, equal to a coat of manure, and if permitted to stand over winter will fertilize the soil.

Cutting the after-math, he states, exhausts the soil, but by grazing with care, manuring deep, plowing and underdraining—by feeding and using all the hay and straw raised on the farm, the percentage of improvement named above had been made on the soil, without the use of any other fertilizer than what the farm produced.

Manure—His stables are cleaned out every three weeks in the feeding season, and the manure is hauled to the wheat field or grass land when the ground is frozen, and spread from the wagon or cart as a top-dressing, without any regard to the moon. By applying the manure in this way, had never smothered the wheat.

For immediate results, he claims that top-dressing is 100 per cent better than plowing under.

Coal Ashes—Mr. A. states has no fertilizing properties on wheat or grass land, or fresh plowed ground.

The Committee would here state that Mr. A. experimented with the ashes fresh from the ash vaults in the cellar of his house, as the fire places have each a connection with these vaults.

Implements—Has a great variety of the most improved kinds, all in good order and carefully housed. He makes use of a roller with advantage and profit on corn ground when the corn is just covered. He also rolls oats when harrowed in, and finds the oats comes up more evenly and is more uniform in height and in ripening. For wheat he first harrows, then rolls and sows broadcast, and cultivates in, or drills in. The average product for the last five years of wheat (dial variety) twenty-five bushels per acre.

He also uses the roller in the spring before first cutting of grass.

Mr. A. regards the oats crop unprofitable, because of its liability to fall down, and he only raises it from necessity. He states he had raised five hundred bushels of oats and one hundred bushels of barley on eleven acres in one season.

Corn Crop—Breaks sod in January, which had laid out from seven to nine years, plowing deeper by one inch to inch and a half each successive plowing of fields, till he reaches a depth of from seven to nine inches; prepares the ground with harrow, and marks out three and a half feet each way; if marked out but one way, he makes the rows four feet wide and the hills two feet nine inches. He plants about the twenty-fifth of April, and cultivates three stocks to the hill; on level ground he marks out north and south. His average product for the last seven years had been seventy bushels of shelled corn per acre, of the yellow variety, which he obtained from Kentucky twenty-five years ago, and claims he had acclimated and improved the variety.

Seed Corn—He selects the seed by going into the corn-field, and takes the most approved ears and brings it in at that time, and puts it on a shelf near the ceiling, where it will not freeze, and lets it remain till wanted for planting.

Mr. A. claims such corn thus selected and thus cared for, will germinate several days sooner than corn taken from the crib; and further states it will grow if smoked and tanned two years old, and is less subject to the ravages of insects when sprouting. He also states if the farmers of Washington county had followed this plan in selecting and caring for their seed for the last five years, it would have saved \$10,000 to the county.

Mr. A. had never missed a good crop of corn.

Root Crop—He raises only for family use and never used Paris green to destroy bugs.

Fruit—The orchard is thrifty. Mr. A. showed the Committee a seedling

of eighty years growth, the fruit of which ("Newell Sweet") is not surpassed in any nursery; after eating of it the Committee all concurred in its excellence. There was a fine crop of apples, peaches, quinces and plums; pears, he thinks, are too subject to blight.

Small Fruits—Of all kinds in great abundance, including fifteen varieties of grapes. Of these, he only recommends three varieties: first, Concord; second, Hartford Prolific; third, Ives' Seedling.

Garden—He has all the usual products, including celery as a favorite.

Hay—Cuts clover when in bright bloom before it browns, so as to get it all with no part dead. In two hours after cutting he shakes out with Bullard's Hay Tedder. If not mowed till in the afternoon, shakes out the next morning. He sometimes varies from this rule. He uses the Tedder the second time, in three hours after the first. The hay will then do to house or shock up; makes use of no salt.

When there is more timothy than clover he cuts when timothy is in full bloom, and cures the same as clover.

Mr. A. states hay in stack will lose five per cent., and that clover should never be stacked.

Fencing—Prefers board fence; oak boards and locust posts. All things considered, he thinks there is economy in making board fence, even if lumber has to be shipped from Canada. He has his boards six inches wide, inch and one-eighth thick, fourteen feet long, four boards nailed on with scattered or alternate heads, the fifth board used for a cap; the bottom board should be nine inches from the ground, and a ridge of earth raised to within three inches of board; the posts should be set two and a half to three feet in the ground, not including the ridge; the furrow is of advantage to the wear of the fence, as it throws water off. White oak post fence will last twenty years, locust will last forty years and may then be reset.

Stock—Mr. A. gives attention to the blood of cattle and swine—but has made a specialty of breeding sheep in one family for over twenty years of the Humphrey importation of 1801 and 1802, as improved by Atwood and Hammond. Mr. A. does not claim that this family has reached perfection, and has no knowledge of sheep that would improve this breed outside of this family; but all other breeds have been improved by a cross, with an infusion of the blood of this family.

In and in breeding, if practiced, requires great care and discrimination.

Mr. A. states in quantity of wool, size of sheep, and form, we have increased, as well as the staple, in length, and retained the quantity and evenness of fleece, and have had better sheep for twenty-five years than Mr. Atwood had, which at that day the shoulders were a little higher and lighter than the present form, and the wool upon the shoulders twenty years ago showed finer than the other part of the fleece. The improvement now is, the fibre is uniform throughout the body of the fleece; fleece wool is now carried down to the knee and over the belly; the crown and foretoys are also covered with wool.

Question by Secretary—What are the points of a good sheep?

Answer by Mr. A.—Form, size, and covering.

1st. Of the form—first the countenance should indicate docility; the eye of gentle and quiet like expression; the form of the head broad or wide between the ears, and also between the eyes; the bridge of the nose broad, and wide in the nostrils, with thick lips; the ears large, thick and mellow; the measure should be short from the eye to the muzzle; the neck should be short and thick, carrying the thickness well up to the head; the top of the neck full and rising, from the wither to the crown of the head; the withers and back should be in line; the rump or tail drooping but little from the line of the back; the brisket projecting well; heavy and broad

enough to spread the shoulders sufficient to admit a large hand between them; the rib should be full rounded; barrel shape chest; loin, short and broad; the hams muscular and heavy; well joined behind, and full from the tail down to a line of the belly and brisket; legs should be short, with heavy bone, which will be an index to the bone of the whole animal; the hind legs should present a perpendicular line from the root of the tail to the fet-lock or foot; hock and stifle broad; the foot neat and square under the sheep, and free from trumpet hoof form.

2d. *Size* of rams when full grown should weigh from one hundred and twenty-five to one hundred and eighty pounds in full fleece. The ewes, when fattened, should average without wool, one hundred pounds.

3d. *Covering*—It is desirable to have a staple three inches long and of uniform length, including the belly, and of sufficient density to form a smooth, even surface; also to prevent the fleece from parting on the back.

Buildings—The mansion, a large two-story brick, built by Mr. A., makes quite a contrast with the architecture of the old brick house yet standing. The site of the new building was well chosen, for the health and convenience for both house-work and farm-work. The Committee could not but notice the arrangement of lots inclosed with board fences and gateways leading to stables and other buildings, (these gates slide and will let sheep pass out but will prevent cattle.) The sheep barn is large, the stabling can be inclosed or opened at the ends at pleasure, affording light and ventilation. It also has divisions for different lots of sheep which may feed at the same rack at the same time, and be changed from one division to another without mixing, with convenience. The racks are well suited for feeding hay, grain or oats in the sheaf and are perhaps the best in the county; this building holds a large amount of hay, it is painted as some of his other buildings are with a mineral paint of an umber color, bordering on red. The wagon shed, with grain rooms and other rooms, the tool room in another bank building with stabling for horses and sheep are worthy of praise; in this building were found carpenter tools, and farm implements suited for their respective work. A fine water trough is in convenient reach for stable and stock use.

There was a neatness about the buildings, the lots, and the whole farm that is well worthy of honorable mention and reflects great credit upon Mr. A. Both he and Mrs. A. have the thanks of the Committee for their hospitality and for the very abundant supply of the necessaries of this life of which we were permitted to share with them.

Adjourned to meet at Thomas Vance's to-morrow.

ASA MANCHESTER, President.

JOHN McDOWELL, Secretary.

VISIT No. 8.

FARM OF THOMAS VANCE.

The Committee met August 28th, 1874, according to adjournment, at the residence of Thomas Vance, in Cross Creek township, Washington county, Penn'a.

Members present, Col. Manchester, Wm. C. Brownlee, Franklin Bell and John McDowell; W. L. Archer and Jas. Glass were on motion added to the Committee.

The farm of Mr. V., contains two-hundred and fifty acres, all inclosed except ten acres; sixty acres are in timber; had part of it in his possession since 1843, the ballance since 1856.

It is situate about three miles from Burgettstown, having a retired location where he may drink the pure pleasures of rural life, the fields are gently rolling. There is no better pasture land in the county, some of the fields had never been plowed, and are thickly covered with native grass, and

other pasture fields are well set with timothy and clover half fit for mowing; from appearance the corn field would give a large yield. The soil of this farm has not lost any of its virgin fertility; the Committee witnessed the plowing for wheat, which was well done, and they had a better opportunity of judging the quality of the soil.

Fencing—Is worm, built high with riders on stakes.

Mr. V. plows from twelve to fifteen acres of sod, from six to ten inches deep, in the winter if it can be done, prepares the ground in good order with harrow marks one way three and a half feet between rows, and makes the hill two and a half feet apart, he selects his seed corn while he is husking and puts it on the shelf near the ceiling in a room where there is fire, where it remains till needed for planting. His seed has never failed to come up, and he states the season is never too wet nor too cold in planting time to destroy the vitality of seed thus saved. Mr. V. corroborates the statement of Mr. Archer, in his estimate of saving to the farmers of Washington co., if they would select and take care of their seed corn in this way. Mr. V. plants in April, or as soon as the ground will admit, covers three or four inches deep. Works soon after corn is up, and grows three stalks to the hill, he uses the five shovel cultivator twice, then the double shovel once, "lays by" about the twentieth of June; product from sixty to seventy bushels shelled corn per acre, he had sometimes changed seed, but fell back to the gourd seed which he claims to have improved. He never cuts up corn only from necessity, for the reason that it don't pay.

Oats—Sows early, the common kind by the first of April if possible, and raises about thirty five to forty bushels per acre, had raised seventy-five bushels off nine and a half acres, in the year 1852.

Wheat—Plows to sow about the first of September; sows the dial wheat broad cast and gives three strokes with the harrow, cuts on the green order; average product per acre, yearly, from fifteen to twenty bushels.

Timothy—Sowed after wheat, one bushel to eight acres, clover in the spring, one bushel to ten acres. Cuts hay when timothy is in blossom; cures partly in swarth, then puts in shock, when fit mows all he can, and stacks all the rest. Feeds all the hay and straw on the farm, and states he had thereby increased the productiveness of the soil, and by care in grazing fifty per cent. He regards fields naked of grass injurious to land.

Manure—Top dresses grass and wheat land in winter when the ground is frozen, and only plows manure down from necessity.

Potatoes—Raises for family use only.

Fruit—Has apples, pears, peaches, plums and a great variety of small fruit, all bearing.

Sheep—Keeps about three hundred, some of which are the South-down, these are bred for mutton, lambs which are put into market about the first of June, at the age of three or four months, average weight fifty pounds, sold at or near eight cents per pound yearly, the other sheep are the common merino.

Hogs—He keeps the Maggie breed, and likes them better than the Chester, he states they fatten at any age, and grow rapidly to a large size, he claims there is in this breed a larger proportion when fattened of lean meat than in the Chester.

Cattle—Mr. V. has been engaged in breeding the short-horn or Durham stock for twenty years, he first obtained his start by the purchase at Cleveland, Ohio, of the imported bull Monarch, of Herd Book pedigree, and of the next purchase of Robert G. Dun, Madison county, Ohio, consisting of one bull and three heifers, all numbered and entered in the American Herd Book, the bull was named Trumpeter, No. 3510, Vol. 4, these were bred, up to the year 1867. He then purchased of John G. Dun, the bull Cable, light roan, No. 6508, Vol. 8; he crossed this bull with the progeny of Trumpeter, up to 1870, then purchased the present red bull, Bon-ben of

Robert G. Dun, No. 9546 and bred this bull to the progeny of Trumpeter and Cable. It may here be stated that the breeding had been kept within this particular family line of cattle.

Mr. V. is of the opinion it was by carefully selecting good bulls and breeding them to females of their own get that he had obtained a decided improvement in their calves; in point of size, muscle, ease in fattening, beauty and symmetry of form, with the thick soft mellow hides and are more peaceable and quiet in disposition. Mr. V. recommends kind treatment in all cases, and states he had no more trouble in milking young heifers the first time than to milk an old cow.

He prefers having the calves come in March and April, and for the fall, in September. Never raises by hand; weans at four months, and feeds one pint of oats to each calf per day, to begin with and then increases the feed, letting them have all the grass or hay they will eat.

Breeds heifers to drop calves at three years old, and generally takes one-fourth of the milk from each cow for family use.

Milking Properties—Mr. V's. experience is, that for milk and butter, these cattle are equal to any he ever owned, he is at this date milking six cows of thorough bred pedigree. The average weight, sixteen hundred pounds, one of which he refuses five hundred dollars. These are very uniform in size and appearance, some of which are photographed. The pictures may be seen in the Fulton House, in Washington, Pa.

The whole herd of Mr. V. taken as a lot, there are perhaps no such others in the county, it may be, not in the State, that will surpass them in all points; he has another fine cow, owing to her age and great weight will not be bred again; weight twenty-one hundred.

Mr. V. states that cattle will do better, to be pastured through the summer on the same field, if the pasture is good, changing from good (or even not very good) to better pasture will not improve the condition of the animal. The local attachment of this breed are very strong; he feeds no grain in summer except to calves; salts twice a week, throughout the year.

Wintering—Stables all in winter, feeds half bushel chop twice a day, to the six cows, one-third bran mixed with one-third each of corn and oats ground, or one bushel of the mixture per day to the six cows; gives hay once a day and lets them out to straw or fodder in the daytime. The other cattle receive like attention.

Mr. V. states that this breed of cattle can be kept in fine condition and will give more and better beef on less feed, than any other breed.

Poultry—Has variety of breeds dying with cholera.

Buildings—There were no buildings here when he moved on the farm, except an old log house and barn; he has erected new buildings, comfortable and convenient, which are in good condition. The mansion is a two-story frame building, with eight rooms and a larder. The out-buildings, wash house, ice house and others are convenient. Around and about the house and these buildings Mrs. V. has a variety of flowers, geraniums, fuschias, coleus in hanging baskets, (these baskets many of them were made from old round fruit cans cut in strips half an inch wide to bottom and spread outward to any desired shape.) tuberose and many others, hard to mind the names but beautiful to look at.

The barn, stables, sheep houses, wagon shed, are all good. Implements good and well housed, but want of time forbade us to examine these buildings more particularly.

The thanks of the Committee were tendered to Mr. and Mrs. V. for their kind entertainment and for an ample supply of the substantials and luxuries of their own raising.

A. MANCHESTER, President,

JOHN McDOWELL, Secretary.

VISIT No. 9.

FARM OF C. H. BEALL.

Copied from the INTELLIGENCER.

The Committee met September 19th, 1874. Consisted of Col. Asa Manchester, Franklin Bell, S. K. Weirick, W. C. Brownlee, S. J. Crothers, Robt. Wylie and John M'Dowell, of which Committee Col. Manchester was Chairman and John M'Dowell Secretary.

The Committee having organized itself for business, on motion there were added to the Committee Lee Archer, James Farley and Wm. Lee, of Washington county, Pa., and Dr. Richardson, Thos. Buchanan and W. J. Burley, of West Virginia.

Quite a number of other gentlemen were present, among them Robert Buchanan and R. M. Crothers, of Washington county, Pa., and Absalom Buchanan, of Brooke county, West Virginia. We also found our friend Mr. Glass, of the *Pan Handle News*, among the visitors.

The objects of the Committee. As we have already intimated, the Committee are engaged in visiting the farmers of Washington county specially, and adjoining counties incidentally, for the purpose of gaining from each individual farmer all facts pertaining to the particular methods of each in planting and tilling crops, the kind of crops best adapted to our soil and climate, and their ratio of produce and remuneration. Also all facts bearing upon the possibility of improving both the quality and yield of crops by special methods of any kind. They also examine the stock of each farmer and inquire into his views upon the subject of stock raising, and relating to the most profitable kinds of stock and the best methods of improving the same. When the investigations of the committee have been completed, the results will be published in book form under the auspices of the Agricultural Society of Washington county, and will constitute a valuable fund of statistical information to be distributed among the mass of the agricultural community. Before entering upon the critical process of examination by which the facts we have referred to are elicited, the custom of the Committee is to view the farm and stock, in order to estimate properly the relative value of the theory and practice of the gentleman who may be the proprietor.

In accordance with this practice the Committee proceeded to take a view of Mr. Beall's home farm as affording a fair basis of judgment as to the general character of his management. They found the farm in fine condition, with the exception of the fences, well set in grass, and the cultivated portion exhibiting the hand of a master. For ourselves, we have not seen such corn on the river bottoms as we saw growing, or rather grown on this upland farm. In looking at Mr. Beall's cattle, that beyond the fact of being in fair condition, they were of indifferent stock, and gave ample evidence that their owner neither seeks nor cares for reputation from this source. The Committee, of course, spent little or no time in examining them, but passed on to his sheep yards to examine the numerous specimens of his famous flocks. The Committee spent much time in examining these sheep and it was evident to the most casual observer that they were upon a most interesting subject, and the sheep were undoubtedly among the finest specimens of the Spanish breeds in this country. The Committee having completed the survey of the farm and stock returned to the house and immediately set about that part of their mission which is the most important as well as the most interesting to the agricultural community, for whose advantage and advancement the labors of the Committee are mainly directed. Here we may say that the party to be interrogated occupies much the position of a witness in court. He is questioned and cross-questioned upon every important point. If he advances anything new to the

Committee, he must go down to hard pan and show upon what he founds his opinion and by what steps he has built up his theory. As we have said these questions are put with a view of eliciting facts and may be put by any member of the Committee, and the answers become the subject of legitimate comparison and discussion, and a vote of the Committee is often taken with a view of recording their sense upon the soundness or otherwise of the views of the party under examination. These little interchanges frequently bring out interesting and valuable hints which are preserved in the records of the Committee.

It will not be necessary, except occasionally, to give the questions asked Mr. Beall, as they will readily be inferred from the answer. So that we shall only state the questions where they were followed by general discussion.

Mr. Beall's examination. I may be called a mixed farmer with a decided preference for stock, but keep no cattle or hogs above the actual necessities of my farm, considering any farther investment, so far as my farming is concerned, a dead loss. I have about 1,700 acres of land but cannot tell how much of it is cleared. The timber land is all underbrushed and very well set in grass and makes very good pasture.

The quality of the land is limestone with the exception of one tract that is of rather singular formation, being under-laid with two different strata of limestone with a coal vein between them, while the surface of the soil is a sand and gravel mixture. The quality of timber is of the same character as that on other neighboring tracts of land, being white-oak sugar and hickory.

I consider farming a paying business; how it pays as compared with other business, I am not prepared to say, as I have never engaged in any other; but it has always paid me. Farming will not pay without labor skillfully applied. My opinion is that wool is that which makes farming profitable. I have from 2,500 to 3,500 head of sheep, perhaps a general average of 3,000 head. I never raise wheat except for the purpose of getting land into grass, and never raise any kind of grain with a view of selling it for profit. I sow the kind of wheat known as Kentucky or Maryland Stiff Straw. I do not think wheat has degenerated. My present year's yield was the largest I have grown for many years. My average product for ten years has been from twenty to twenty-two bushels per acre. I preserve my wheat from mixture with other kinds by having the thrashing machine worked on a considerable amount of oats before thrashing any wheat, finding that by this means the machine is thoroughly relieved of any wheat that may have remained in it from other farms. I have not observed any increase either in size of grain or yield.

How to select seed wheat.—Several of the Committee here enumerated the plans by which they obtained the largest grains for seed. Some practiced thrashing over a barrel; some by running the grain through a smut machine with a powerful blast which blew out the small and light grains.

Dr. Richardson's method.—Dr. Richardson said his practice was to run his seed wheat over a screen, the spaces in which were large enough to allow all but the largest grains to pass through. He had not, however, been able to increase the size of the grain or the yield by any method of selecting the seed but had been able to preserve a uniformity in the grains. The average product of his farm had been, like Mr. Beall's, something over twenty bushels to the acre, although he did once have a crop of thirty-six bushels per acre. He believed the advantage gained from selected seed was the production of vigorous plants, which enabled the grain to hold its own.

Mr. Archer's method.—Mr. Archer's method of improving wheat was by selecting the finest heads, and Dr. Richardson agreed with him that the

only artificial method was by the mingling of flowers, arising from sowing two different kinds of wheat together.

Mr. Beall's examination resumed.—I sow all small grain broadcast, about two bushels of wheat per acre, and a larger quantity of oats. I never tried drilling in grain, because I never could see that my neighbors gained any advantage by it. I have had no cockle in my wheat for eight or ten years until the present season. I do not believe that wheat turns either to cheat or cockle.

Some conversation arose among the Committee upon this proposition.

Mr. Farley wanted to know where cockle and cheat came from when the wheat sown was perfectly free from it.

Mr. Archer believed the seed might lie in the ground for years dormant, until certain conditions, such as attended the growing of a crop of wheat, might favor its growth. Dr. Richardson confirmed Mr. Archer's view, and said there was no evidence of a change of wheat to cheat, and he believed it to be utterly impossible. The sense of the Committee was taken by a vote, and there were three who thought that wheat might turn into cheat, and ten who did not.

Mr. Beall resumed.—I sow wheat always during the first week of September. I prefer cutting wheat in what is known as the dough stage of its growth, and believe that it yields more and better flour when cut in that state. I do not know that there is any advantage in mowing wheat; have always stacked mine and never lost any; I never could get stock to eat wheat straw; I use it therefore for bedding in sheep houses and stables; also for roofing for sheep sheds. I consider this the easiest and most profitable way of converting it into valuable manure. I have open sheds in all my fields, under which sheep gather in wet or very hot weather, and in the course of a year a large amount of manure is thus gathered. I never use wheat straw for the purpose of curing clover hay, finding it to be troublesome to handle. I much prefer using old hay for curing clover in the stack.

Corn planting.—Upon ground intended for corn I haul manure during the winter, and as the ground is ploughed spread it on the surface. I plough from four to six inches deep and harrow until well pulverized, going over the ground as often as six or eight times. I plant about the middle of April; I mark out for planting with a heavy sled, making three marks at a time, and shallow and never cross-mark. The rows are three feet apart, and I drop in hills two feet apart and cover lightly. Owing to my early planting, if the corn were covered deeply it would rot before the ground had become sufficiently warm to sprout it.

Working corn.—As soon as the corn makes its appearance I drag it with a heavy two-horse harrow, having the rows of teeth which pass over the corn rows, set quite shallow, so as to merely break the crust without disturbing the roots of the plants.

The two first workings are with the heavy harrow, and the ground is left perfectly level and smooth. I next use a harrow tooth cultivator and the last time work with a five tooth cultivator, but never use a shovel cultivator. I always work the ground shallow, because on our rolling ground and hillsides the fields are less liable to wash when worked in this way.

Saving seed corn.—I pick my seed corn from the piles in the field, carrying for that purpose a barrel in or attached to the wagon, into which the selected ears are thrown. I spread it on the loft floor of my corn house, the boards of which are about half an inch apart and the corn is spread so as not to be more than six inches deep. I do not know that this plan possesses any particular advantage over others; the corn dries out thoroughly, and I never had any trouble in getting it to grow, but once. I am not able to assign any reason for the failure that time; I only know the fact. I have not experienced much trouble from my early planting; have

seldom had to replant. Occasionally my corn has been frost-bitten a little and it has suffered some from cut worms.

The value of corn fodder.—I cut up all my corn, and think it pays to do so, even when I have plenty of hay. If the stalks are tall and heavy I cut a high stubble; I am cutting it very low this season. As compared with hay, I would as leave have it as any kind of hay. I consider three tons of fodder equal to a ton of hay, and for bringing lambs through winter there is nothing equal to good fodder.

After some talk by the Committee upon the relative value of hay and corn fodder, a vote was taken, and Mr. Beall's views were sustained.

Mr. Beall resumed:

Some difference of opinion about oats.—In preparing the ground for oats, I plow shallow, just about as for corn. The manure I plow under, so that in reploting the same ground for wheat the manure may be thrown on top.

I believe oats to be a paying crop. I sow from three to four bushels per acre; I have never observed any deterioration in the crop; they are always well headed and on my farm always grow rank and heavy; have always until the present season, been obliged to reap a considerable portion of the crop; had no such trouble this season. I regard what are called the Irish, or little oats, as the best kind ever grown in this country. I cannot give any idea of the average yield of my oats crop, as I thresh but few and use them almost entirely in the sheaf.

The question of the degeneracy of the oats crop in quality and quantity, elicited the narration of considerable experience from various members of the Committee.

Mr. M'Dowell stated that he had observed a marked degeneration in his section of country.

Dr. Richardson was of the opinion that the crop had not degenerated, unless in few scattered localities where the land itself from some cause or other might be at fault. He had not observed any difference on his farm, and expressed the opinion that the little oat was the best variety and were now as good as ever they were.

Mr. Crothers could not perceive any difference in either quality or quantity, but expressed his preference for the Shonon Oat, of which variety he had sown six acres the past season from which he got a yield of 85 bushels per acre.

Mr. Wylie preferred the common oat; believed it to be the best adapted to our soil and climate. He had tried the Shonon variety, without success; they didn't average more than a grain to the stock, while of the common oat he raised average crops of 40 bushels per acre.

A vote of the Committee sustained Mr. Beall's opinion.

Mr. Beall suggested more manure.

On seeding to grass.—Mr. Beall continued: I sow timothy with wheat in the proportion of a peck to the acre and a like quantity of clover in the spring. I find the proportion of clover rather heavy as in a wet season it is apt to choke out the timothy. I have been in the habit of mowing two crops of clover for hay, but do not approve of it except from necessity. My reason is, that it injures the meadow. I believe the second crop is worth half as much at least for feed, when left standing and worth a great deal more to the land. The time for cutting clover depends somewhat upon the amount of timothy mixed with it. If the proportion of timothy is large I prefer waiting on the timothy to mature. As to comparative value between grain and grass crops, my opinion is that after raising a sufficient amount of grain for the farmer's stock, grass is his most profitable crop. (Mr. Beall was sustained in this opinion by a vote of the Committee.) Resuming, he said that for pasture he preferred blue grass to timothy and clover.

He was requested by the Committee to put in writing at an early day for the use of the Committee, his views as to what were the distinguishing points of a perfect sheep.

Mr. Beall has failed to give his views on this important subject.

Breeds of sheep.—I regard the Spanish sheep as the best, but there are several kinds. I prefer the Pauders and the Infantados, and of these I believe the first to be the better.

(At this point there arose a discussion as to the merits of the improved Spanish sheep, as compared with what is known as Wells & Dickinson stock of Black Top Merinos.)

Colonel Manchester said he had not been a breeder of sheep for sale, although he had been a wool grower, and his father had also been for many years before him. From his own experience he had doubts as to any real improvement on the Wells & Dickinson sheep. Bred judiciously they were a strong, hardy animal and produced an excellent quality of wool; but fashion extended even to the growing of wool, and there was an injudicious breeding for fineness of fibre which ought to have been avoided. The cross with the Saxony breed obtained exquisite fibre at the cost of a hardy constitution. Now we were running to another extreme in the way of wrinkle and grease. We have gained but little in wool but immensely in grease. He did not think that where feed was taken into account that the balance was much in favor of the improved breed. Mr. Farley recollected these changes and the havoc that had been made by the introduction of the Saxony and the crossing with the Black Tops. For himself he had not much confidence in these sheep breeders. He had nothing to say against them as men, for they were nice men and their object was to make money. Among these breeders first came Mr. Reed, and then Mr. M'Farland, who said the Black Top fleece was too heavy and dirty, that cloth could not be made out of dirt. For himself he preferred and had kept on with the old stock, though he had no doubt lost money by it.

A Kentucky crop of corn.—Dr. Richardson was called upon to explain a Kentucky experiment of raising corn which was simply the experiment of a gentleman in the State of Kentucky, who proceeded upon the theory that plant germs adopt themselves to surrounding conditions, disposing of their roots and stems according to circumstances, and that it was not good policy to change decidedly the conditions under which the plant commenced to grow. Corn roots are distributed with reference to the depth at which the grain germinates. If in plowing these relations are disturbed, the corn is compelled to adapt itself to new surroundings. Its relations to light and air should remain the same as nearly as possible through all its growth as at its starting.

Adopting this theory and acting upon it the gentleman of whom he spoke cultivated his field with the hoe only, keeping down weeds and preserving the level of the hills as they were when the corn came through the ground. He raised a crop of 175 bushels per acre. The gentleman was confirmed in his views, but the Doctor did not know whether he had ever repeated the experiment.

Dr. Richardson, by request of the Committee, gave them some idea of the practical utility of chemical analysis. In his remarks he showed that there could be no excuse for bad or unprofitable cultivation of our soils for want of the knowledge necessary to institute such an analysis. The manure of the farm and of the woods, if only abundantly applied, contained the necessary plant food for every variety of crop that can be raised on it. The timber and other natural growths upon the land indicated clearly enough the crops that can be grown successfully upon the soil.

The Committee having finished its labors, returned a vote of thanks to Mr. Beall and his lady for the excellent dinner of which they had partaken, and for the very pleasant manner in which they had been entertained gen-

erally. We are of the opinion the Washington County Agricultural Association has abroad a delegation of gentlemen who are most faithfully and intelligently performing the duties assigned to them, and we cannot see how their labors can fail of being not only instructive, but of eminently practical utility to the agriculture of the county.

VISIT No. 10.

FARM OF ABSALOM BUCHANAN.

The Farm Visiting Committee of the Washington County (Pa.) Agricultural Society met December 23, 1874, at the residence of Absalom Buchanan, Brooke county, W. Va., on the Bethany pike, three miles from Wellsburg. Members present, S. J. Crothers and John McDowell.

The following named persons were invited and took part in the work of the Committee: W. K. Pendleton, President of Bethany College, West Virginia; Dr. R. Richardson, late Professor of Chemistry in said College; J. C. Palmer, Esq., Dr. J. R. Gist, James Agnew, John Lewis, James and David Waugh, William Hammond, C. H. Beall, Tolbert Buchanan, Lewis Applegate, Joseph Gist and Abram Wilson.

Dr. Gist was elected Chairman.

S. J. Crothers and Dr. Richardson made some remarks relative to the work of the Committee.

The Committee walked over the farm which is regarded the best on Buffalo Creek, and contains five hundred acres, 250 of which is bottom land, of black loam, subsoil black gravel, borders on the waters of Big Buffalo. The soil is admirably adapted to the growth of corn, too rich for oats, but fine for wheat and grass. At the present time there is a fine coat of grass for winter grazing. The Committee were surprised to find the sheep looking so well and not yet taken into winter quarters.

The upland is only used for pasture and is characteristic of the West Virginia hills, rich and fine for sheep grazing. The farm is well arranged in the division of fields for convenience and for water. The buildings also, are of the first class, in fine order, and well located. The large commodious two-story brick mansion fronts the Bethany pike. A beautiful lawn intervening with its great variety of evergreens so nicely arranged, makes the place attractive to the passing stranger.

The farm contains seventy-five acres of timber, black-walnut, cherry, locust, sugar-tree and whiteoak, the balance is cleared land.

The farm situated in a basin seems to be secure from the severity of the winter storms; in fact the chirping of the robins among the pines that adorn the mansion, made the Secretary think summer lingered there. The Committee returned to the house.

Analysis of the soil.—Dr. Richardson remarked that to analyze soils so far as substance was concerned, is easy work, but to determine the exact amount of each ingredient is more difficult. The quantity subjected to analysis is so small compared with an acre of land under cultivation, that it is questionable whether the sample analyzed would represent the true character of the acre from which it was taken. The quality of soils on different farms is different. Chemistry determines the nature and value of soils and what they will produce. The same soil will produce different kinds of crops. All our cereals require the same ingredients as other plants. Every farmer ought to have a knowledge of the soil he cultivates and what it needs. Lime adds in the composition of plants. [See appendix A, B, C.]

In-and-in Breeding of Stock.—President Pendleton, of Bethany College, W. V., asked the Committee for their opinion on in-and-in breeding of stock, and remarked that he was surprised to hear Mr. Ben. Groom, once a student of Bethany College, now a distinguished stock raiser of Kentucky,

remark that in-and-in breeding was practiced by cattle raisers in that State; that even calves were bred back to their mothers, and as a result, whilst it sometimes injuriously affected the brain, it promoted, when judiciously managed, the development of fat and muscle, and by this practice some of the finest animals were obtained. Mr. Groom had himself, recently had a sale of cattle that aggregated \$72,000, many of which was from in-and-in breeding. One cow of the lot, brought \$4,200. Surprised at this course of breeding, he made inquiry concerning it, of a number of other cattle breeders of Kentucky, who corroborated the statement of Mr. Groom. President P. asked the Committee if this would be so with sheep? He keeps the South down, as the best mutton sheep, and there are no other of this breed kept in this region with which he might cross.

President P. states that the Kentucky stock raisers select for breeding a particular family line, and take the greatest care in breeding only from the best, and with judicious selections for the perfection of the breed.

S. J. Crothers instanced his neighbor, who paid no attention to crossing the breed of his sheep, never making any selections. The rams run with their offsprings till his flock dwindled down to worthlessness.

J. Gist had some little experience in in-and-in breeding of sheep; most of his crossing was made in some particular line of blood. Since 1848 he had been breeding the Infantado. He states that it is difficult to make a good cross, and requires great care in selecting. The first and most important point is the constitution. Hammond, of Vermont, after Atwood, might be considered the originator of the Infantado. Hammond purchased of Atwood, and never left this family of sheep. As for his (Hammond's) success, he refused for Golddrop ram \$10,000.

C. H. Beall—Mr. Hammond never but once bred out of his own flock, which he did with Victor Wright's ram, to get more grease and fill an order for two buck lambs.

S. J. Crothers stated that Atwood did cross his sheep with the French Rambouillet to obtain size.

Lewis Applegate is opposed to in-and-in breeding; hogs bred in-and-in will die off from lameness.

Dr. Richardson—In-and-in breeding must be with great care for success; first point is constitution; second, size; third, form, and then covering.

Abraham Wilson—It is best not to breed in-and-in; to do so, however, requires close attention; hogs get hump-backed by an improper cross.

Absalom Buchanan—In-and-in breeding requires good judgment in mating; brain disease is sometimes the result, but by judicious in-and-in breeding we obtain the best stock.

C. H. Beall—To get the best stock, breed the lamb back to his mother.

Disease of Sheep—S. J. Crothers—Foot rot is a disease which can be cured by giving a portion of a mixture of one-fourth pound magnesia, one pound sulphur, mixed in sweet milk; drench each sheep with a portion of the mixture on Monday, and repeat the same Thursday; on Monday following pare the feet well and anoint with the oil of tar in a thin state, by dipping the sheep's feet in the liquid; cost of ingredients for one hundred sheep, five dollars, cost of labor five dollars. Mr. Buchanan's German shepherd, W. Heinzeroth, said, never feed sheep on oats until they are three years old, as it affects the brain; corn is the best feed for lambs, and should be fed in the afternoon. Sheep should have water before they are fed grain; feed one-half bushel of grain to one hundred grown sheep, and less to lambs. Salt in the evening so that they will not drink water for several hours, and the blood will be healthier; ewes with lamb should receive but little salt, only sufficient to freshen the appetite. Much salt will affect the lamb, and an overdose will cause abortion. Paper-skin is received from the mother, and from cold as soon as the lamb is dropped; this is the begin-

ning or root of the disease, the mortality of which is seen in the fall, winter and spring.

The Committee now proceed with the object of their visit—to learn the experience of Mr. Buchanan whose occupation is that of mixed husbandry.

Mr. Buchanan's views.—Mr. B. stated that he had no experience with foot-rot; has had scald foot in his flock, which was caused by his sheep running in high grass. He cured it by making the sheep pass through a box or trough sixteen feet long, one foot wide and six inches deep. This box he placed in a narrow passage, through which the sheep were made to walk in a liquid of brine (salt and water) reaching to the pastern joint. Sometimes he put tobacco stems in the liquid. One application is a certain cure in twenty-four hours.

To prevent paper-skin, commence in time to feed corn, oats or bran, if attacked with the disease, change to better pasture and continue feeding.

Question—What do you regard as the most profitable breed of sheep?

Answer—That which will raise the most wool and most mutton on the least feed, keeping in view the congregating of large flocks.

Is there any necessity of a herd book in order to preserve and improve any breed or family of sheep?

There is.

The opinion of the Committee was here called for.

Jos. Gist—We need a book of this kind if it had been started with Atwood or Hammond, but at the present we have no starting point.

C. H. Beall—There could not be one made now that would be reliable from any present flock.

What is the best method of preparing wool for the market?

By Mr. B.—Wash well, which can be done by swimming the sheep two or three times at intervals of half an hour—shear in six or eight days after washing, always aiming to put the wool in good condition, putting nothing in the fleece but what is merchantable wool. This was endorsed by C. H. Beall, Jos. Gist and J. C. Palmer, Esq.

S. J. Crothers thought this would do, but had doubts, if the sheep ran a longer time without shearing, it would be like the boy's nose, they would not stay clean.

Mr. B. keeps about eight hundred sheep, and states that the most money is made from sheep; that sheep raising is the principal business of the farmers of this county, but it is necessary economy to keep other stock. Cattle will eat what sheep will refuse. Horses, beyond what are necessary for the wants of the family and as a farm motive power, are unprofitable. Hogs, to take up the waste and supply the family with meat, should also be kept.

Part of the Committee took a look at his thoroughbred Durham cattle, which are fine animals. The cows have the appearance, as represented to be, fine milkers.

Horses Deteriorated.—Mr. B. states that the horse stock of this county has run down, and that a large and substantial breed is much needed at the present time.

Hogs—He has the thin-skinned breed of hogs, which he obtained from Kentucky. These are quiet, hardy and prolific, mature at eighteen months, and weigh four hundred pounds, gross.

Fencing—Mr. B. regards locust posts and oak boards nailed on, breaking joints alternately, the cheapest fence.

Crops—Breaks twelve or fifteen acres of sod in March, plowing about five inches deep, puts the ground in good condition with a common tooth harrow, marks out three and a half feet each way, and plants from the twentieth of April to the first of May, according to season, as the stream is west of the farm, the corn is protected by the fog from the same, and was never injured by the frost. Works twice with the double shovel iron plow, cuts

up all corn, putting one hundred hills in a shock, the fodder he feeds to the cattle and sheep. He raises about eighty bushels shelled corn per acre, and usually takes two crops of corn in succession, but seldom raises oats, he plows the corn stubble ground, and sows broad-cast one and three-fourths bushels wheat per acre, and harrows in; the second crop of wheat he puts in the same way, and raises from twenty to twenty-five bushels of white variety per acre.

Mr. B. regards corn as the most profitable crop. Garden—sufficient for family use. Fruit—Has a fine orchard, large, thrifty and productive; has cherries and other small fruits for family use in great variety.

For want of time the Committee were compelled to omit underdraining, manuring, limeing and the implements of husbandry.

In conclusion we would say that we were pleased with our visit, and were very kindly and hospitably entertained.

The thanks of the Committee were tendered through S. J. Crothers, to Mrs. B. and daughter for their excellent provide of the good things of this life, and for their hospitality throughout.

J. R. GIST, President *pro tem*.

JOHN McDOWELL, Secretary.

APPENDIX.

A.

BETHANY, March 3d., 1875.

MR. JOHN McDOWELL:

Dear Sir:—Yours of the 1st inst., is just received. As to Mr. S. J. Crothers' inquiry why we have occasionally wheat, very heavy and vigorous as to straw, yet the head deficient in grain, my answer was understood correctly only in part, to wit: That the fault might be in the soil, not furnishing the materials necessary for the formation of the grain. A want of moisture in the case given could not be supposed, as the stem of the plant is tall and vigorous, which would not occur unless moisture was abundant.

A failure in the grain under the above circumstances may, however, be owing to different causes. A want of phosphoric acid in the soil, or an insufficiency of substances from which nitrogen can be obtained by the roots of the plant, is a frequent cause. But too wet a situation or season may produce the same effect, giving an abnormal or excessive development to the stem, at the expense of the grain. This may also be produced by a superabundance of manure. It will occur also where the wheat is shaded from the sun-light needed for the formation of the starch and gluten of the grain, even if all other necessary conditions are present. The plant (and this is true of all plants,) has the power of decomposing carbonic acid and water, and of forming starch only under the influence of the sun. If this be withheld in any degree, this process and the product of starch, &c., in the grain will be in an equal degree deficient. You are aware that a very large proportion of the grain of wheat consists of starch, this being sometimes as great as 77 per cent. And it abounds in the seeds of most plants, so that anything that interferes with its formation will, to a greater or less extent occasion the grain to be small, shrivelled or entirely wanting. This is commonly noticed in all grain, growing under the shade of trees.

A failure in the grain, may then be due to a deficiency of sun-light; to a super-abundance of moisture; to a deficiency of the necessary inorganic matters in the soil, or to an excess of vegetable matter which disturbs the healthful action of the plant and gives preponderance to the formation of stem, predisposing to rust, to blight and other diseases.

Under these last circumstances, wheat and various other grasses grow with great radidity, but the plants are rendered feeble and incapable of producing good seed. There is luxuriance without firmness or compactness; a large amount of water without that formation of starch and other nutritious substances which give value to plants as food. Hence, while there is much bulk in the straw or hay when cut, there is little weight when the water is evaporated, in the process of curing. All plants, I may remark, however, and all seeds retain a certain amount of water, even when apparently dry. Thus wheat in the granary will gain one or two pounds in weight per bushel, in a year, from the gradual loss of the water it contained. With kind regards

Yours truly,

R. RICHARDSON.

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B.

BETHANY, Dec. 29th., 1874,

MR. S. J. CROTHERS:

Dear Sir:—I take pleasure in presenting, at your request, a few thoughts upon some of the questions suggested at recent meetings of the Farm Visiting Committee, of Washington county. And I would here wish to remark, in the first instance, that I conceive the Agricultural community to be under very great obligations to your Committee, and especially to yourself and the corresponding Secretary, Mr. John McDowell, for the energy and efficiency with which you have carried out the praise-worthy purposes for which the Committee was appointed. It is manifestly owing largely to your enterprise and zeal, that the interests of Agriculture, in this section, are attracting more than usual attention, and that improvement in this direction, has received a fresh impetus.

One of the matters recently somewhat discussed among farmers here, is the expediency of engaging again in the extensive production of grain, and particularly of wheat, which prevailed in former years. The successful wheat-crop of the past season and the unusually fine appearance of the wheat-fields this fall, has led some to think that they might again, as formerly, depend upon the wheat-crop as their chief source of profit. It is well known that the uncertainty attending this crop for the past twenty-five or thirty years, under our common methods of farming, has led to its neglect, and it has become a pretty general rule with farmers here, to sow no more of it than will suffice for family consumption. Meanwhile, wool-growing has gradually been substituted for grain-growing, and has become the chief source of income for the Agricultural community throughout this region. Under this system, it is obvious to all, that our lands in general have recovered much of the fertility of which they had been deprived by former excessive grain-growing, and that they are again in a condition to produce remunerative crops. This improvement has been due to pasturage and especially to the greater use of red clover which by its long roots has brought up from the depths of the soil the materials needed by the cereal grains, acting thus, in some measure, as a sub-soiler. It has been due also, in part to somewhat more careful methods of tillage, so that, though grain has still been cultivated to some extent, it has been done as subsidiary to the support of sheep and our necessary domestic animals, and the frequent interposition of pasturage has prevented serious injury to the cultivated fields. As the fertility of the soil is the investment from which the farmer expects to derive his profits, it is natural that an apparent increase in this should lead him to draw upon it, especially when the slow returns of wool growing are considered, together with the uncertain and unfavorable fluctuations in the wool market. A desire for more speedy and ample remuneration, has, hence, of late given an increased stimulus to grain growing, and led not a few to entertain the question under consideration.

As regards the *kind* of grain likely to be most remunerative, opinions differ. Some remembering the loss of the wheat crop during so many years, by freezing out, by insect enemies and unfavorable seasons, have expressed the view that *oats* offer a more certain and profitable return. Others are deterred from an extended cultivation of oats, by the idea that this crop is very exhausting,—a notion which has existed since the days of Virgil, and has been entertained even by some eminent modern agriculturists. In regard to this, I would remark that while the degree of exhaustion will of course vary with the product per acre, the particular variety of oats grown, &c., there is no just ground for regarding it as comparatively an exhausting crop. Of the common white Friesland oat, *forty* bushels is here an average

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crop, on land which will bring *twenty* bushels of wheat per acre. Reckoning the oats at thirty pounds per bushel, (though it seldom exceeds 28) we have in pounds as much as of wheat per acre. But it is to be remembered that each grain of oats is covered by a woody husk, and that the actual amount of grain is not more than fifteen pounds per bushel, giving but thirty pound for sixty pounds of wheat. Now, if we were to suppose that wheat and oats derived *equally* from the soil, the materials of which their grains consist, a crop of oats of forty bushels would be only *half* as exhausting as one of twenty bushels of wheat. This, however, would not be a fair statement of the case, for oats possesses a much more vigorous power of vegetation than wheat, and is far less dependent upon the soil. It is so also with buckwheat, which, planted in pure sand and supplied only with water, has been known to grow to maturity and even to ripen some of its seeds. Wheat treated in the same manner grows feebly—fails to blossom, and the whole plant thus grown, when analyzed, is found to contain no more nitrogen than existed in the grain from which it grew. Wheat is thus wholly dependent on the soil for its supply of nitrogen, a material essential for the formation of its gluten from which it derives its chief value as food, and of which it contains from 8 to 35 per cent., while the grain of oats has only from 2 to 5 per cent. of this important substance. Without entering into the question whether oats can derive its nitrogen directly from the air, or whether it excels wheat in its power of taking it from certain compounds in the soil, it is manifest that the absolute quantity it requires for the formation of its grain is not one-fourth that needed by wheat. Now, since the supplying of nitrogen to the cereal grains is the great desideratum in agriculture, if we consider its abstraction as an index of the exhausting power of any particular crop, we must again reduce the tendency of oats in this respect far below that of wheat, which is, in point of fact the most exhausting of all the crops we raise. The same fact will be evident if we compare the amount of inorganic substances required respectively by oats and wheat. Thus, according to careful experiments, wheat abstracts from an acre seventeen pounds of phosphoric acid, where oats takes away but seven and a half pounds, and of lime, wheat carries off sixteen pounds, while oats takes away but little over six pounds. I have dwelt on this point more particularly because of the false impression that prevails, and because it is one of no small importance in its bearings upon our agriculture. It has, indeed, always appeared to me a little singular that farmers should regard oats as more exhausting than wheat, when it is the common practice among them to sow oats in a field which they think *too poor* to bring wheat. If wheat *requires* more fertility, it follows that it is more exhausting, and it is hence evident that if we were to resort again to grain-growing, our lands would experience far less detriment from oats than from wheat.

I have no idea, however, that extensive grain-growing would be at all so conducive to the ultimate prosperity of the agricultural community here, as the present order of things, under which we have a mixed husbandry, and, upon the whole, as much grain production as the condition of our lands and of our farming will justify. Nor do I think, whatever might be the prospect of immediate gain, that the final result would be at all so profitable, when the expenses connected with grain-raising are considered, with the uncertainty arising from bad seasons, insect enemies, &c., and especially when these are contrasted with the comparatively small amount of labor involved in wool-growing. The reduction in the fertility of the land in the one case and its improvement in the other must also always form an important element in the calculation. Our agriculture will never attain to its proper position, until farmers learn to adapt the soil, both in condition and in composition, to the plants which they grow upon it, and to restore systematically

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and regularly to the land the full amount of the various substances which plants remove.

There is another source of loss incidental to grain-growing on our upland, to which, in conclusion, I would briefly advert, as constituting in this region a very important objection to this pursuit. I refer to the washing off of the surface soil. This, which occurs mainly when fields are planted in Indian corn, has of late years become a very grave matter, since clover and pasturage have given to our soil a much more light and loose character than formerly belonged to it, and this country is more subject to long droughts followed by sudden and violent rains. It is a matter of no small moment to the farmer that so much of the surface soil which has been enriched and renovated by pasturage and manure, should be suddenly swept off down the steep declivities of our hills and carried away by our creeks and rivers. This seems to me to be an increasing evil, and one, I think, which may well demand the combined wisdom and experience of the farming community for its prevention. The judgment of intelligent agriculturists as to the best methods of ploughing for Indian corn, the proper direction and slope of the open furrows as well as of the rows of corn, the means of giving greater compactness and tenacity to the soil, &c., would, it appears to me, be highly beneficial to the agricultural community, is elicited and presented to them by your Committee.

Yours respectfully,

R. RICHARDSON.

C.

S. J. Crothers remarked, deep plowing is too much neglected. Shallow plowing is a common and great mistake with too many of our farmers, of the present day. Nothing exhausts the soil more than shallow plowing, for each successive crop. The yield received is from poor to thin, down to an uncertainty or nothing at all. On the other hand, deep plowing increased the productiveness of the soil, the rains are better absorbed, their fertilizing elements retained, a good crop may always be expected. The spring of the year is the best time to plow deep, increasing from one to two inches each plowing till you get sufficient depth. Our lands, from Laurel Hill, to the western part of Harrison county, Ohio, are productive from twenty-five to thirty feet below the surface. I have scattered limestone soil taken from the bottom of my well, with good effect on fields of grass and grain. The dumps of our railroads, grass over in a short time and also produce rank weeds, and an old saying is, "The fattest soil will grow the rankest weeds;" many of these dumps are of soil from cuts twenty-five or thirty feet deep.

RECEIPTS AND OTHER VALUABLE INFORMATION.

Colorado Beetles how to catch them.—Plant your potatoes in drills, in straight rows as soon as the frost is out and the ground will admit. Take a smooth joint of old stove-pipe, open it and bend in the middle into a trough, angle shape, to fit the surface between the rows; nail cleats of wood at the ends from the angle, to keep the beetles from falling off or escaping. When they appear on the plants, drag the trap with a handle of wood, between the rows; (a wooden handle will keep the trap to its proper place better than a cord.) use a light corn broom to sweep the beetles off each row into the trap. Empty them on straw and burn immediately. This is speedy, easy and sure work, if attended to whenever they appear, is as sure work as Paris green and no danger from poison.

SECRETARY.

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Sausage Meat.—To fifty pounds of meat, add one pint of salt, half a pint of ground pepper and heaping pint of powdered sage. The ingredients should be exactly measured. SECRETARY.

Recipe for Curing Meat.—The *Germantown Telegraph* gives the following: To one gallon of water take 1½ lbs. of salt, ½ lb. of sugar, ½ oz. saltpetre, ½ oz. of potash; in this ratio the pickle can be increased to any quantity desired. Let them be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and, when cold, pour it over your beef or pork, to remain the usual time—say four or five weeks. The meat must be well covered with pickle, and should not be put down for at least two days after killing, during which time slightly sprinkle with powdered saltpetre, which removes all the surface-blood, etc., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well, though the operation of boiling purifies the pickle by throwing off the dirt always found in salt and sugar. If this recipe is properly tried, it will never be abandoned. There is none that surpasses it, if so good.

This has been tried by the Secretary, who found it very good, cold or warm.

Cure for foot-rot in Sheep.—Take 4 ozs. butyr of antimony, 4 ozs. muriatic acid, 2 ozs. white vitriol; put the antimony and acid in a bottle, then powder the vitriol and put into a bottle; shake occasionally, for two or three days, put a quill through the cork of the bottle, and it is fit for use. Pare the affected parts of the feet thoroughly, and should they bleed, which they will, the preparation will stop the blood at once. Clean the feet of all your sheep, so that the preparation may be applied to the feet of all your sheep; this seems to prepare the feet to resist the disease left on the grounds that have been traveled over by sheep that have the disease.

I only made two applications to my sheep's feet; took the whole flock and at the end of one month, my sheep were cured perfectly. That was three years ago, since which time they have been as sound as though they never had it.—*Rural New Yorker*.

ASA MANCHESTER.

Independence, Pa.

Sweeney in Horses.—Oil of spike, 2 oz. oil of origanum, 2 oz. aqua ammoniac, 2 oz. spirits of turpentine, 2 oz. sweet oil, 2 oz. alcohol, 2 oz. Mix to form a liniment; apply freely to the shoulder, part affected, every other day; rub in well; four applications will cure.

FRANKLIN BELL.

• For collar sores, wash well every night, with cold water.

FRANKLIN BELL.

Distemper when noticed, my practice is to bleed freely from the neck, and use some gentle physic. I have not lost the life of any, nor much time.

FRANKLIN BELL.

When cabbage are eaten by worms or lice, use a mixture of lime and salt, four spoonfuls of fresh lime and one of salt. Apply in the morning when the dew is on the cabbage.

S. J. CROTHERS.

When sheep are torn by dogs, use on the wounds a mixture of tar and salt; one part salt, and four parts tar, well mixed.

S. J. CROTHERS.

Cure for scab in Sheep.—One part magnesia, four parts sulphur, mixed in sweet milk, with which drench the sheep, twice a week.

Then use an extract externally, made from skunk-cabbage, tobacco, flat-mullen and elder roots; using the largest portion in the order named, all boiled in urine. Apply from a bottle through a quill in the cork, as you part the wool along the back, sides and belly of the sheep. This extract should be used warm.

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If this remedy is used on ewes with lamb affected with the disease one month before they lamb, I guarantee the lambs will be free from the disease.

S. J. CROTHERS.

Exhausted Land—To restore, plow deep; sow in buckwheat; when in blossom plow down; sow in oats, when about fifteen inches high, plow down; sow in rye as early in the fall as possible; sow clover in the spring; in one year when clover is rank plow down; stir in September, sow in wheat and timothy, then clover in the spring. The soil is then fit for any crop.

S. J. CROTHERS.

Deadening Timber of all kinds—August is the best time; peal willows downward and let the bark hang on the trunks; they will die soon.

S. J. CROTHERS.

To get rid of Stumps—Every crop you put in dig around the stumps; in a few years you can remove them. It is bad farming to leave the furrow lying up against the stump, which preserves it from rotting.

S. J. CROTHERS.

Bad Shoeing of Horses—The following action was unanimously taken by the Committee, to wit, that the practice of fitting the shoe on the foot by burning is very injurious, the circulation in the hoof is thus arrested and is a cause of premature lameness. We regret that many of our blacksmiths practice it, which we condemn.

By order of Committee.

The following is taken from the Monthly Report of the Department of Agriculture. See page 31, January, 1875:

Cure for Bots—The correspondent writes: Sage tea killed the bots taken from the stomach of a dead horse in fifteen hours. He next took a handful of tansy, bruised it, added a little water, squeezed out the juice and put some in; they were dead in one minute. "Since then I have had it given to every horse I have seen affected with bots, and have never known it to fail of giving entire relief. My friend had another horse affected with bots, several years later. He gave him the tansy in the morning and a dose of salts in the evening; the next morning he took up from the excretions three half pints of bots."

TABLES SHOWING HOW MUCH CORN MAY BE RAISED ON AN ACRE OF GROUND.

No per centage of loss is allowed in these tables. Every farmer can estimate his own loss according as he is careful or careless.

First—Corn planted in hills $3\frac{1}{2}$ by $3\frac{1}{2}$ feet each way will give 3,555 hills per acre, three stocks per hill, one ear per stock, 10,665 stocks or ears.

The following calculation is based upon the number of ears per bushel to the number of bushels per acre:

110 ears to the bu.	97 bushels shelled corn per acre.
100 " " "	106 " " " "
90 " " "	118 " " " "
80 " " "	133 " " " "

Second—Planted $3\frac{1}{2}$ by $2\frac{1}{2}$ feet each way will give 4,978 hills per acre, three stocks per hill, one ear each, 14,934.

110 ears to the bu.	135 bushels shelled corn per acre.
100 " " "	149 " " " "
90 " " "	166 " " " "
80 " " "	186 " " " "

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Third—Planted or drilled (stocks close) 4 by 2 feet apart each way, 5,445 hills, three stocks per hill, one ear each, 16,335.

110 ears to the bu.	148 bushels shelled corn per acre.
100 " " "	163 " " " "
90 " " "	181 " " " "
80 " " "	204 " " " "

Fourth—Planted 2 ft. 5 in. by 3 ft. 1 inch, the same as Mr. Dickey's, gives 5,845 hills per acre, (averaged) three and a half stocks per hill, one ear each, 20,457.

110 ears to the bu.	186 bushels shelled corn per acre.
100 " " "	204 " " " "
90 " " "	227 " " " "
80 " " "	255 " " " "

If any one is doubtful of the number of ears taken as above yielding a bushel of shelled corn (sealed half bushel) we ask him to shell and count for himself. The 110 ears were of dry corn, average (measured) lengths of cob seven inches and no regard paid to depth of grain or size of cob. The yield depends upon the variety as well as the size of ear and upon the condition.

This part of the tables is only intended to show that if every hill has its full number of stocks and each stock producing a full and a good ear, what the ears if grown will yield.

It is more particularly the number of hills per acre we wish to notice.

Rule for calculating the above Tables—Multiply the length by the breadth of hills, divide this into 43,560 (the number of square feet in one square acre) will give the number of hills; multiply the hills by the number of stocks per hill, will give the number of stocks or ears per acre; divide by 110, 100, 90 or 80, number of ears taken for a bushel will give the number of bushels shelled corn per acre.

In closing these reports we feel relieved of a hard task. We have given our services as Secretary without pay. Those members of the Committee and assistant who contributed to pay our expenses will please accept our thanks. That these reports are no better is the fault of the Secretary. The visits recorded and signed by the Assistant Secretary have not been changed from the manuscript except in a word or two. The Committee agreed, however, to change the report as published in the *Intelligencer* of C. H. Beall's farm on fencing. See report.

The object of farm visiting is one of the best provisions of our Society, and if the Committee is again sent out on a like mission, the Society would do well to procure and compensate for the services of an educated man, who would feel an interest in the work, to act as Secretary.

In these reports may be found the experience and systems of practical men, on whom the farmer and stock-raiser may rely with implicit confidence. Mr. Archer's description of a perfect sheep far surpasses that found in Morrill, Youatt, Randall or Livingstone, or in any work on sheep the Secretary has read. We hope this and other things recorded will be profitable.

The receipts that appear in the appendix were all, except the last one, before the Committee. It was agreed that each should stand upon the recommendation of the person signing the same and not upon the recommendation of the Committee.

The tables or calculations in the appendix present a matter of economy in distancing the hills of corn, which will be useful to the farmer. These

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were prepared under the direction of R. Wylie and the Secretary (by order of Committee) by John G. Ruple, an experienced civil engineer of the county, and for which he has our thanks for his gratuitous service. From these tables or calculations it may readily be seen why some farmers raise more corn per acre than others, and if farmers will select, with care, the table suited to the soil they cultivate, and the seed they plant, our labor as a Committee will be more highly appreciated.

Mr. Ruple gives a rule for finding the number of hills of corn an acre of ground will contain from which any one may make his own calculations.

JOHN McDOWELL, Secretary.

**End of
Title**